THE SOFT PATH TO WATER POLICY REFORM

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According to the program, my topic today is "California's Water Future — the Soft Water Path." Soft Water path, indeed. I would like to take credit for the pun but — alas — I cannot. The topic was assigned to me by someone with a deft sense of humor and, fortunately, for my purpose today, an appropriate awareness of California history.

The pun aside, let's turn to history. Over twenty years ago, I participated in a radical reformation of California's energy policy. This reformation took form by the enactment of the Warren-Alquist Energy Conservation and Development Act in 1974. That Act established, for the first time anywhere, what was subsequently described by author Amory Lovins as the "*Soft Energy Path*". Today, I want to put the case there are strong similarities between energy policy pre-Warren-Alquist and water policy today; that these similarities extend to the problems confronting the energy industry then and the problems confronting the water industry today; that these similarities continue between the "hard path" or business-as-usual solutions which were advocated then by the energy industry and the solutions which are being advocated today by their water industry counterparts.

My intention today, after discussing the water-energy policy similarities, is to suggest that as there was a soft path to energy policy reform, so is there a soft path to water policy reform.

First, Energy —

In the late 1960's, the private electrical utilities in California — Pacific Gas and Electric, Southern California Edison and San Diego Gas and Electric — for some time had been reaping the economic fruits of a growing population and economy, and a congenial and compliant state policy and regulatory structure. The state policies then in place, permitted each utility to prepare its own projection of demand for electricity, submit its projection of demand to the PUC (that is, the Public Utilities Commission), receive from the PUC a Certificate of Need for the construction of power plants, build the plants, put all capital, interest and construction costs into rate base, calculate the rate of return allowed on all rate-based costs by the PUC, and then adjust rates to consumers sufficient to recoup all such costs and profits.

Clearly, the higher utilities could project demand, the more capital-intensive power plants they could construct, the more profits they could earn.

And then, to validate their demand forecasts, the utilities aggressively promoted consumption by "Reddy Kilowatt" programs, subsidies to builders of all electric homes, declining bloc rates for large and interruptable consumers and other similar demand stimulation schemes.

The entire system had as its purpose maximizing the demand which policy dictated was to be accommodated exclusively by supply additions.

It was not surprising then, that for some years the utilities had projected demand to grow by as much as seven percent annually. This meant that every ten years they would have to double the number of their power plants in order to meet projected demand requirements.

I suppose such practices could well be going on today but for the fact old realities changed. The new realities were that; almost all of the major hydroelectric dam sites had been developed; the use of coal and oil as boiler fuels became unacceptable because of air quality impacts; and nuclear power plants - the supply option of choice by the utilities - had become controversial. For these, and a host of other reasons, citizens and local governments throughout the state began to protest and resist the siting of large generating plants in their communities.

Alarmed and frustrated by such opposition, the utilities began a public relations campaign to convince the business community, organized labor, the media and the public that unless they were allowed to conduct their business in the usual manner there would soon be wide-spread energy brownouts and blackouts; that industrial growth would cease; and hundreds of thousands of workers would be laid off as a result of the energy drought. For those who were not persuaded, the slogan "let the bastards freeze in the dark" was coined.

As part of this campaign, the utilities and their business, labor and media supporters began a concentrated effort to persuade the state legislature to "remove regulatory barriers" and to "facilitate the siting process" by enacting legislation pre-empting local government land-use planning authority and establishing a "one-stop" siting process administered by the state. Legislation to so provide was introduced in the Senate, promptly passed and delivered to the Assembly.

Now, a minor but instructive note: the Assembly Committee to which the Senate bill was referred was not the Public Utility Committee to which all such legislation had customarily been referred but to a new committee — the Planning and Land Use Committee — of which I was a member. My point being that the Planning and Land Use Committee had few institutional or other ties to the utility industry and its traditions.

However, the case made to our committee by the utilities for their legislation was certainly compelling as no one wanted to be responsible for an economic collapse or to cause folks to freeze in the dark but there were nagging concerns which led the

committee to reject the legislation while taking the subject matter itself under submission for further study. A Subcommittee on Energy was created to manage the study and I was appointed its chairman.

To assist the committee's study, we commissioned the services of the Rand Corporation, a Santa Monica think-tank with no industry ties, to conduct a review of California's energy problems and policies. It did so and reported back to us in November of 1972 — exactly twenty years ago. Its report was startling and instructive.

Equipped with the Rand study, my subcommittee began a top to bottom review of state policies and programs and utility problems. The dominating business-as-usual scenario which confronted us was — according to utility projections — by the year 1990, anywhere from seventy to ninety, large scale, mostly nuclear, power plants would have to be built in order for utility projected demand to be accommodated. But, as we learned, nuclear was expensive, requires immense amounts of cooling water, cannot be sited in seismic areas and has major safety concerns which had not then, and have not today, been answered.

The subcommittee concluded that the business-as-usual future was unacceptable, rejected the legislation sponsored by the utilities and explored other policy options. In the process, we developed what subsequently became known as the "soft energy path" which is the state's energy policy today.

The major stepping stones of the path we developed were based on the following principles:

- The demand accommodation policy, as a policy, should be continued, but with new powerplants as a last resort rather than as a first resort supply option,

- Demand projections should be objectively and accurately determined and free from self-interest considerations; these demand projections should incorporate and reflect anticipated results of conservation measures,

- Subsidies and other incentives to stimulate demand should be eliminated; instead subsidies and other incentives should be provided to further energy conservation, systems efficiency and alternative supply sources,

- Conservation standards should be adopted to reduce demand across all energy consuming sectors: residential, commercial and industrial,

- Non-traditional and alternative energy supply systems such as cogeneration, geothermal, photovoltaic, passive solar, wind, low-head hydro and other power sources should be promoted; also, electricity generation should be more widely distributed; and utilities should be provided with incentives to utilize such resources,

- A program for research and development should be funded by surcharge on energy consumption and dedicated to improving energy conservation and efficiency and to develop new non-traditional supply sources and technologies,

- A new agency free from supply oriented mandates of other agencies and dedicated to the furtherance of energy conservation and the development of alternative supply systems should be established. The agency should be made secure from most political and advocacy pressures,

- Finally, establish the principle of cost internalization by covering program costs with a surcharge on electricity consumption.

Now, since 1972, how have California's energy problems fared?

Well, since 1972, despite the fact there has been no long-term reduction in either population or industrial growth rates, we have been able to reduce annual energy growth from seven percent to 1.9 percent and to limit installed generating capacity to 44,500 megawatt - far less than the 1972 projections of over 100,000 megawatts. What capacity growth has occurred has been due in significant part to the alternative generating sources which the Act encouraged. And, our buildings, equipment, tools and appliances are more energy efficient; new industries and jobs have been created; nuclear power plants have been curtailed; and, the utilities are still making profits!

I submit this is one of the more remarkable and successful reversals of resource management policy in the past several years!

With this as background, what lessons are there to be learned that could be applied to resolve California's current water problems and controversies?

The first lesson is in problem definition — just what is the major water problem today?

Some contend the foremost problem is the drought, aggravated by the demands of a growing population and economy and compounded by community and local government opposition to the development plans of the water industry. This is quite similar to the definition of the energy problem presented by the utilities twenty years ago. It typifies the "hard path" or the "build it — dam it" and "freeze in the dark" approach to resource management.

On the other hand, some folks contend the problem to be a policy and regulatory framework which ignores new realities and opportunities and that these new realities demand (1) less attention to the development of traditional supply sources and more attention to the development of conservation measures and strategies; (2) more efficient allocation and utilization of presently available supplies; and (3) adding to supply inventories certain non-traditional supply sources. This is the "soft path" to resource management.

What are the new water realities which put into play the need to restructure our traditional, business-as-usual, approach to meeting society's need for water?

The realities are: that there is a limit to the amount of water available to California; that most of the traditional supply sources have been developed; that development of the few remaining supply sources would be financially prohibitive; that there is growing public awareness of and opposition to the environmental degradation caused by traditional water development strategies; that there is growing public awareness of and opposition to continuing further subsidization of politically allocated water supplies; that present supply allocations, while appropriate in the past, are no longer relevant to today's economy; and so on. In short, these new realities are astonishingly similar to those which confronted the energy industry twenty years ago.

So what do these new realities suggest for our soft path approach to a more rational water future?

1. To begin, we should establish a California Water Authority as an independent agency with broad powers to further new and specific program goals and objectives, including the management and direction of all state, regional, municipal and district water agencies.

2. The Authority should take title to all waters of the state as soon as contractual and other rights expire, can legally be terminated, or otherwise acquired. Concurrently, the Authority should establish a market-based allocation system, implemented in stages to avoid market and institutional frictions, and consistent with environmental thresholds and carrying capacities which would be established to reflect scientific rather than political considerations. The system would reflect the fact that economic principles and common sense demand that users who value water highly should be allowed access to available supplies or the opportunity to buy it from others. Clearly. such a system would allocate the existing and available water supplies more efficiently and more efficient allocation of water would permit economic growth and delay the development of new supplies.

   The market-based allocation should be regulated to insure social and other benefits usually ignored in free market economies. For example, available supply should be determined only after resource carrying capacities and environmental thresholds have been determined and protected.

   While we should strive to turn the desert green, we should not destroy the rest of the state in the process.

3. The Authority would have the ability to enter into contracts for the rent of the public's water and to broker exchanges between willing buyers and holders of such contracts.

4. The Authority would be directed to establish demand forecasting methodologies to be used by all water contractors. The methodologies would insure that all

forecasts are objective and unbiased and incorporate and reflect water conservation standards and market price adjustments. This would enable the Authority to determine when, if ever, additional water development projects should be undertaken.

For example, presently, Department of Water Resources (DWR) plans the construction of three water transfer facilities in the Delta to increase water exports through the Banks pumping plant from the present 6,400 cfs. rate to 10,300 cfs. — an increase of sixty percent!

Despite widespread, including gubernatorial, pleas to protect the Delta and the knowledge that credible water quality standards for the Delta may someday be set by the Water Board, DWR presses ahead with its construction plans. Its justification for doing so? As DWR itself puts it:

"DWR annually requests each long-term State Water Project (SWP) contractor to prepare an estimate of near and long-term water requirements. These projections form the basis for DWR water planning and project operation studies."

Sound familiar?

5. The Authority would develop standards and guidelines for the conservation and efficient use of water. It would require each water district and contractor to develop a long term water management program incorporating such standards and guidelines as applicable. This feature would be similar to the program recently adopted by the Public Utilities Commission for its regulated water utilities.

   Conservation standards and guidelines would be by differing consumer sectors including but not limited to (1) water storage and transportation, (2) municipal, residential and industrial, and (3) agricultural.

   While market price provides incentives to conserve, standards and guidelines are desirable.

   A mere five percent saving by conservation across all consuming sectors would save enough water to allow an expansion of more than 25 percent in our non-agricultural consumption, more than enough to take us well into the next century.

   The remarkable savings by conservation strategies are best illustrated by Los Angeles Department of Water and Power (LADWP) and East Bay Municipal Utility District (EBMUD). LADWP, for example, seeking a ten percent saving, achieved a 28 percent saving.

6. The Authority would develop and administer an appropriately funded program to facilitate the availability and use of alternative water supply sources, including but not limited to:

A. Water Reclamation — the U.S. Bureau of Reclamation estimates that reclaimed water could provide as much as 2 million acre feet of water per year or an amount almost equal to that delivered by the SWP! It and a number of southern California water agencies are initiating a study of how best to develop and use this new water supply source. The Authority would encourage and participate in this effort. Not only will legally required and long overdue wastewater treatment be facilitated but a new and significant water supply source can be developed.

B. Desalinization — Today, there are at least sixteen desalinization plants either proposed, under construction or in operation. They represent an increasingly economical (on a marginal unit cost basis) means of adding water supplies which needs and deserves more attention by the state. Considerable information already has been gathered concerning the technological, environmental and economic feasibility of this water supply option. In recent decades desalting technology has improved and costs have dropped by up to 50 percent. As most of the inexpensive water supply sources have already been developed, for certain applications and on a marginal cost basis, new supplies by traditional means may cost more than such non-traditional supplies.

Photovoltaics is an energy counterpart.

C. Land Retirement — There are 500,000 acres of agricultural land in California in the process of being contaminated by toxic accumulation as a result of excessive irrigation. These lands, located in the lower Central Valley, are being irrigated with inexpensive Central Valley Project (CVP) project water to grow cotton, alfalfa and forage. Approximately 1.5 million acre feet of water are used seasonally for such purposes. No feasible means of solving or relieving the toxic contamination problem has been identified despite a combined state and federal four-year multi-million dollar effort to do so. These lands should be retired by the Authority and the 1.5 million acre feet of water they consume should be made available to the market.

D. Central Valley Project Revision — The Congressional General Accounting Office, last year, issued a report detailing abuses of the federal Central Valley Project and proposed suspending all renewals of water contracts until Congress rewrites the law to allow an assessment of the purposes to which the water should be put. In response, this year Congress enacted the Central Valley Project Improvement Act (H.R. 429) which addresses terms and conditions for contract renewals, water transfers and assured supplies for fish and wildlife habitat. The Authority should be authorized to acquire the CVP on behalf of the state and make available to the market such supplies as become available with contract expiration. It should also facilitate by brokering the transfer of contract rights to CVP water.

7. The Authority should develop and appropriately fund a research and development program to further water conservation practices and technologies and water development alternatives.

   Research and development are essential components of a new policy approach to water management in California. Development of new technologies and practices in demand forecasting and projection, resource conservation, identification of alternative sources of supply, cost benefit analysis, environmental thresholds, public trust requirements, are all topics for further and continuing research. Strategies for the elimination of subsidies need to be developed along with internalizing the costs of environmental degradation.

8. The Authority should integrate and coordinate all the functions described herein as desirable. As may be observed, many such functions are already being performed or considered. What is key therefore, is their integration and coordination to insure that additions to or expansions of water project facilities are the last resort options and not the first, that is, that they are undertaken only after it is demonstrably clear that conservation and alternative supply measures are unable to accommodate a market established demand. If after having done so physical project facilities are deemed necessary to accommodate projected demand, then and only then should their construction be considered.

I conclude by acknowledging the social and economic benefits provided by historic "hard path" resource development policies. Such benefits were and continue to be substantial for the most part, but with the changing realities and with the knowledge of a new, exciting and successful alternative, it is time to move forward on the softer path.

Thank you for your attention.

Notes:

- Charles Warren is presently the Executive Officer of the State Lands Commission.
- The Warren-Alquist Energy Conservation and Development Act was enacted by the legislature in 1974 by a margin of one vote — it did not represent a consensus! It was signed into law by Governor Ronald Reagan who had first vetoed the legislation. In 1976, legislation sponsored by Warren prohibited further nuclear power plants until such time as there had been developed and demonstrated an effective and reliable method of terminally disposing of high-level radioactive waste.
- In 1976, as Chairman of the Assembly Committee on Resources, Land Use and Energy, Warren initiated a water policy study by the Rand Corporation whose report released in 1978 provided the basis for some of the comments herein.
- In 1977, Warren resigned his legislative office to become Chairman of the Council on Environmental Quality, a cabinet level position in President Carter's administration.